

Ensuring the Continued Delivery of Weather and IPM Information for Grapes through the Network for Environment and Weather Applications (NEWA)

(Progress Report)

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Project Objectives:

Objective 1. Provide technical support to ensure continued data collection from existing weather stations and installation of new, state-of-the-art Rainwise, Inc. stations.

Objective 2. Develop 'How-To' manuals for set-up, maintenance, and troubleshooting weather stations as well as for installation, connection, and troubleshooting weather data transmission to the NEWA system servers.

First Year Results:

Objective 1. Funding for a part time technician will provide on-site assistance for the installation and connection to the NEWA network of 7 weather stations associated with the grape berry moth grants in the Lake Erie Region of New York and Pennsylvania, as well as, at least two additional stations purchased by other grape growers in our regions. Funding will also provide for troubleshooting of weather stations and network connections in the Finger Lakes, Lake Erie (including Erie County, PA) and other grape growing regions of New York.

Funding for this project was not received until January 2012, which delayed, but did not stop, the full implementation of this project. It is our expectation that all the project objectives will be fully completed by the end of the project period, March 31, 2012.

Seven Rainwise weather instruments were installed in the Lake Erie region during 2011 to bring the number in the region to 11. Installations were sited to provide a grid of information representing lakefront (Route 5), lake plain (Route 20) and escarpment vineyards. Weather instruments installed in vineyard operations in the Lake Erie region now include;

Erie County, PA

North East Lab (lakefront)

Harborcreek (lake plain, John and Cindy Moorhead)*

North East Escarpment (Tom Meehl)

Chautauqua County, NY

Portland Route 5 (lakefront, Jim and Linda Corell)

Portland (lake plain, CLEREL)*

Portland Escarpment (Charles and Deb Kelley)

Chautauqua and Cattaraugus County, NY

Silver Creek (lake front, Sam Ark)

Sheridan (lake plain, Jerry Cross)

Versailles (escarpment, Dan Sprague)

Niagara County

Ransomville (Paul Bencal)*

Lockport (Larry Manning/Freedom Run)*

*existing installation found on NEWA prior to the start of this project

Once the weather instrument was installed, a communication package was installed to allow for the transfer of weather data to Rainwise.net, where the data stream is monitored to ensure there are no problems. Until recently, the communication package required the use of a computer with a full time internet connection. This arrangement was sometimes problematic as updates for the computer's operating system would disrupt the file transfer protocol (ftp) program responsible for packaging and sending the weather data to NEWA. A new type of communications package that no longer requires the use of a computer was purchased with all the instruments involved in this project. This new type of installation created some new challenges, but as of January 14, 2012, five of the seven instruments are sending data to Rainwise.net. One instrument requires more troubleshooting of the communication package, and one instrument has been installed but has not yet had a communication package installed. We are confident that all instruments and communication packages will be fully functional by the start of the 2012 growing season. The Harborcreek unit had been offline prior to this project due to problems with the communication package and it's setup on the NEWA server. Through this project these problems have been resolved and Harborcreek is once again found on the NEWA website, with data displayed for all the recordable weather parameters.

Objective 2. To help ensure the uninterrupted flow of weather data from stations participating in NEWA, the technician will work with staff at the NRCC and RainWise, Inc. to develop a set of

'How-To' manuals. These manuals will cover every step of a weather station's involvement in the NEWA system from installation of the station in the field to troubleshooting problems involved with the machine itself or the network connections. 'How-To' manual topics to be developed include;

1. Setting up a RainWise weather instrument - a draft of this manual has been developed and can be found at

http://lergp.cce.cornell.edu/IPM/NEWA_Datalogger_installation_manual.pdf

The remaining How-To manual topics require the expertise of the NEWA technician whose time just recently became available. These manuals will be completed and posted on the NEWA website newa.cornell.edu as well as NYS Grape IPM Program website <http://lergp.cce.cornell.edu/IPM/IPMHome.htm>.

2. Installation of a RainWise weather instrument on the NEWA network
3. Troubleshooting the RainWise weather instrument
4. Troubleshooting communication with the RainWise weather instrument
5. Troubleshooting communication problems with the NEWA network

Technology Transfer Plan:

Growers and members of the Lake Erie Grape Industry were presented with the available information and resources found on the NEWA website during weekly Coffee Pot meetings in the Lake Erie Region, through the Crop Update, the weekly electronic newsletter of the Lake Erie Regional Grape Program, and during LERGP grower conferences and small group meetings.